MCTR7200 – DATA RADIO (MIPR)

Tactical networking IP radio delivering ultra-high data rates

Elbit Systems™
Land and C4I

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Part of the **E-LynX™ family**, Elbit Systems' MCTR-7200 – DATA RADIO (MIPR) provides ultra-high data rates of up to 5.5Mbps for the transmission of high-resolution voice, video and embedded Blue Force Tracking (BFT) over a truly decentralized mobile ad-hoc network (MANET).

With frequency coverage from 225 to 512MHz, the MIPR offers a modular range of configurations geared to match the specific operational requirements of any mission, including vehicle configurations, as well as both airborne and marine radio sets. Featuring an SDR design that supports various waveforms, the MIPR's wireless resources are dynamically utilized between the network members, providing end-to-end IP connectivity for voice, video and data.

Modern warfare

With its small form-factor, ultra-high bandwidth and advanced capabilities, the MIPR SDR radio serves as the backbone for secure data network and Ethernet services in the modern battlefield. The solution is ideal for deployed and maneuvering tactical platforms throughout multiple echelons, from Brigade level down to platoon level.

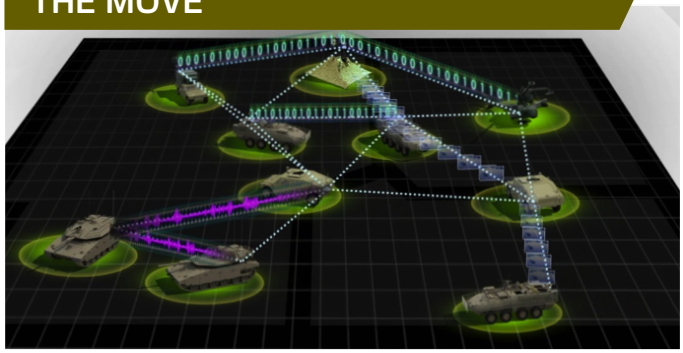
Vast data distribution

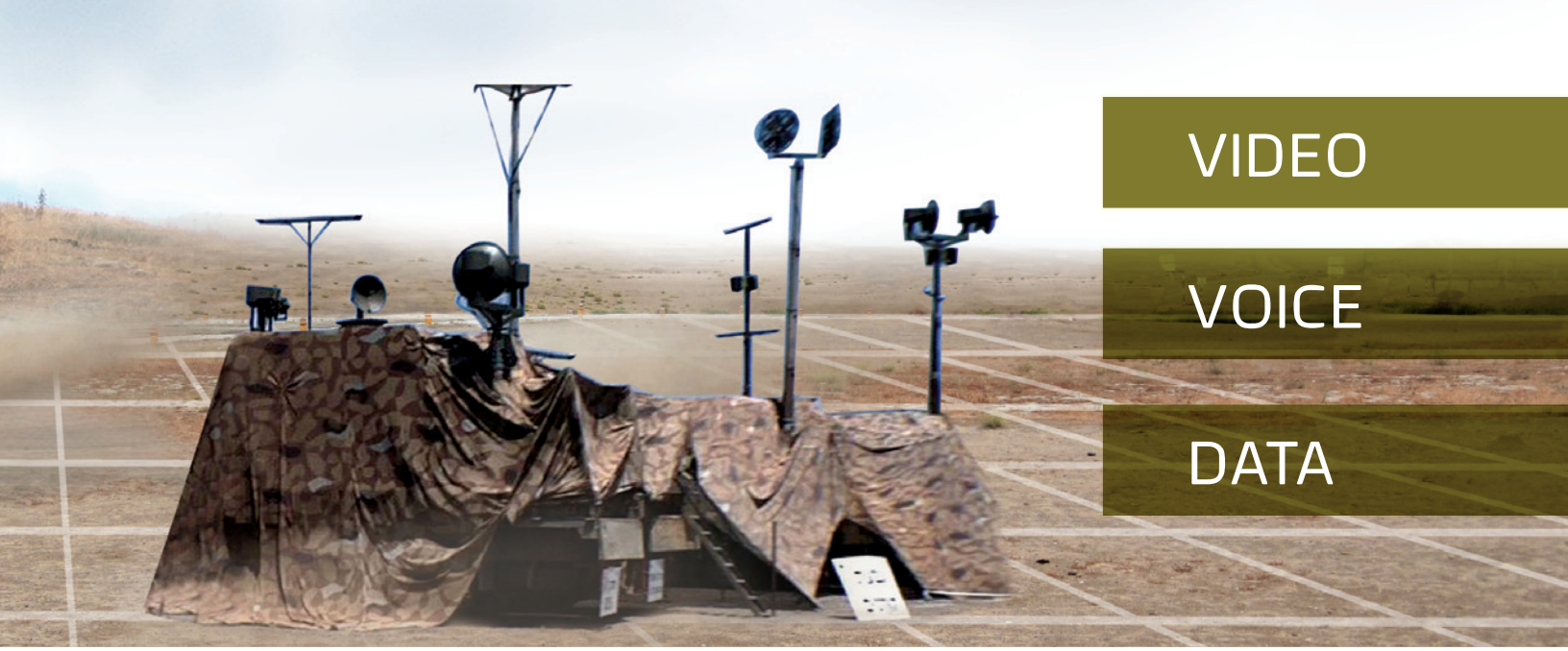
As requirements for data dissemination continue to rise, the MIPR has emerged as a powerful C4I enabler, with capabilities for voice, BFT, IP data and live multicast video. The MIPR expedites military missions by ensuring agile and secured MANET without hindering tactical operations.

Network-centric communications

The MIPR employs advanced algorithms and ultra-high bandwidth to maximize performance throughout the 150-member network.

MIPR - AD HOC NETWORK ON THE MOVE





VIDEO

VOICE

DATA

Video and voice streaming

- supports video/data and voice simultaneously
- Supports highly effective multicast transmission of high definition live video
- Multiple simultaneous CNR-like PTT driven 4 voice groups
- Multi-hop capabilities for all services

MANET

- Up to 150 members
- Implements a fully decentralized IP MANET, delivering CNR-like voice, IP data and video to the network
- Fully automated self-forming, self-healing network
- No single point of failure
- No reliance on GPS or master station for synchronization
- Automatic relay formations for effective multi-hop voice, data and video communications
- Smart data link: Link establishment and maintenance is made possible by manipulating both transmission power and modulations as per data type

One size fits all applications

- A highly scalable and adaptable waveform intended to service various echelons and various tactical applications, e.g.,
  - Platoon networks operating on a single channel of several dozens of members
  - Brigade networks serving hundreds of members via multiple channels
- Adaptive modulation and power capability
- Versatile channel bandwidth support
- Compatible with Elbit System's MCTR 7200 radio
- Mitigates and converges voice and data traffic of multiple tactical VHF networks with UHF networks in a seamless manner
- Implements a smart fusion of TDMA and FDMA for coping with versatile scenarios
- Data links "Plug and play" backhauling function (with or without directional antennas for additional range)
- QOS support via IP TOS/DSCP
- Tactical broadband internet supports standard Internet protocols (RIP, OSPF, IGMP)

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Main Technical Specifications

General	
Frequency Band	225 to 512MHz
Channel Bandwidth	1MHz, 2MHz and 4MHz
Output Power	Adaptive Transmission power — up to 10W
Adaptive Modulations	GMSK, SQAM
DSSS Spreading Factor	1/2/4
Voice	PTT activated CNR: Full duplex conference communications with up to 4 simultaneous speakers VOIP Support
Media Access Method	TDMA, FDMA and Random Access; optimized for streaming and for C4I
Power	DC 18V-32V
Networking	Mobile Ad-Hoc (self-forming, self-healing) Supporting Unicast, Multi-Unicast, Multicast and Broadcast
Network Size	Up to 150 members
Relay Support	Automatic relay formation Up to 6 hops for CNR voice, IP data and video, Video multicast forwarding
Synchronization	Automatic self-synchronization; neither master station nor GPS required
Interface	Ethernet, audio
User Data Rate	Up to 5.5Mbps
Standard IP Protocol Support	DHCP, IGMP, OSPF, RIP, and IGMP proxy
Quality of Service	Standard IP TOS / DSCP
GPS	Built-In
Encryption	AES 256 per FIPS 197
Jamming Immunity	Frequency hopping Excision
L x W x H Weight	253 x 212 x 75mm 4Kg
EMI/RFI	Per MIL-STD-461F
Environmental	Per MIL-STD-810F

E-LynX™ Networking the Battlefield

A Mobile Communication solution for tactical joint Battle Groups Based on family of Advanced Multi-Band-Channel-Waveform SDR Platforms

Elbit Systems™ Land and C⁴I

Elbit Systems Land and C4I Ltd.
2 H'amachshev St., Netanya 42507, Israel
E-mail: landc4i@elbitsystems.com www.elbitsystems.com/landc4i

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